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ABSTRACT

This paper explains that despite the long debate over the relative value of quantitative and qualitative educational research and attempts to talk across disciplines, quantitative research dominates educational policy circles. As a result, quality qualitative research may not enter into educational policy conversations. The paper discusses whether there are times when the research frame selected yields potential limited answers, which are later used to inform educational policy. This is the case with the Center for the Study of Teaching and Policy's (CTP's) 2001 research report, which summarizes existing research on teacher preparation. Only 17 of the 57 studies included utilized exclusively interpretive methodologies, and the authors constructed educational policy recommendations for the Department of Education using mainly quantitatively-based studies. This paper examines the selection and omission of two studies in CTP's report, asking how CTP decisions regarding these studies might mis-cue policymakers. It reviews the nature of paradigms and differences between positivism and interpretivism and differences in methodological preferences; examines criteria and methodology for selecting research in CTP's study; reviews the two studies to illustrate how different methodologies can present contradictory results; examines CTP's teacher education policy recommendations; and explores potential implications of paradigm privilege on future teacher education research and policy. (Contains 50 references.) (SM)

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Paradigm Privilege:

Determining the Value of Research in Teacher Education Policy Making

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Paradigm Privilege:

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The research frame one uses dictates, to a large extent, the way one identifies and describes policy problems, the way one researches these problems, the policy options one considers, the approach one takes to policy implementation, and the approach taken for policy evaluation (Young, 1999, p. 681.)

Federal education laws, like the newly reauthorized Elementary and Secondary Education Act, increasingly contain language demanding "scientifically based research". As educational researchers, we are asked to critically examine the criteria used to judge research quality and determine what is to count as evidence and what evidence counts. Despite the widespread acceptance of qualitative research in local conversations, research frames supporting positivism[1] have dominated educational policy studies (Amy, 1984; Young, 1999). This situation is still the case today even though educational research is recognized as a social science utilizing many interpretive methodologies. As Shulman (1997) reminds us, different research methods "ask different questions and hence generate quite different answers" (Shulman, 1997, p. 13). Similarly, the expected use of the research also influences selection of a particular research methodology (Jayaratne & Stewart, 1991)

Despite the long debate over the relative value of quantitative and qualitative educational research (Gall, Gall, & Borg, 1999; Phillips, 1983; Ragin, 1994) and attempts to talk across disciplines (Bredo & Feinberg, 1992; Shulman, 1997; Smith, 1983), quantitative research seems

[1] Positivism is the "epistemological doctrine that physical and social reality is independent of those who observe it, and that observations of this reality, if unbiased, constitute scientific knowledge" (Gall, Borg, & Gall, 1996, p. 18).

to dominate educational policy circles. As a result, quality qualitative research may not enter into educational policy conversations despite its contributions to the field.

Are there times when the research frame selected yields a potentially limited answer, which is later used to inform educational policy? Such is the case with the very recent research report prepared by the Center for the Study of Teaching and Policy (CTP) for the U.S. Department of Education. The CTP report, Teacher Preparation Research: Current Knowledge, Gaps, and Recommendations (2001), summarizes "existing research—empirical studies, conducted with rigor and critically reviewed by other researchers—on teacher preparation" (Wilson, Floden, & Ferrini-Mundy, 2001, p 1). The authors examined over "300 published research reports about teacher education" (p.1) and selected 57 that met stated criteria. These 57 reports became the focus of the literature review. However, only 17 of the 57 studies included in the report utilized exclusively interpretive methodologies[2]. As a result, the authors constructed educational policy recommendations using a literature pool comprised of 70% quantitatively- and 30% qualitatively based studies. These recommendations were forwarded to the U.S. Department of Education and will potentially impact the field of teacher education and funding streams for future teacher education research.

As teacher education researchers, we are quite aware of the complex relationships within the teacher education, teaching and student learning milieu (see for example Borko & Putnam, 1996; Cochran-Smith, 1997; Day, 1999; Feiman-Nemser & Buchmann, 1985; Goodlad, 1990; McLaughlin & Oberman, 1996; Shulman, 1987; Talbert & McLaughlin, 1993; Zeichner, Melnick, & Gomez, 1996). In addition, we are also aware that "implicit causal structures are highly complex, and being so, can produce contradictory conclusions within a given research

[2] My analysis of the CTP literature base is described later in this paper.

domain" (Miller & Fredericks, 2000, p. 2). Given that, should quantitative research be the primary basis for educational policy recommendations, particularly when research examining these relationships may be better accessible through interpretive methodologies? How do quantitative methodologies get privileged in policy discussions? More importantly, what are the potential policy consequences of this paradigm privilege?

This paper uses these questions to sort through the selection, and omission, of two studies in the CTP report. Michael Andrew's (1990) "Differences Between Graduates of 4-Year and 5-Year Teacher Preparation Programs" is a quantitative piece included in the CPT report. Linda Darling-Hammond's (2000) case study research, Studies of Excellence in Teacher Education[3] was not included in the report. Both studies ask similar questions yet the results appear to contradict each other. How might CTP decisions regarding these two pieces of research miscue policy makers?

My point in this paper is not to rehash the principle arguments surrounding the paradigm debate. Rather I wish to illustrate how a narrow conception of rigorous research reduces potential contributions to educators' and policy makers' understandings of how to improve teacher education. The first section briefly reviews the nature of paradigms and differences between positivism and interpretivism and differences in their methodological preferences. The next section examines the criteria and methodology for selecting research in the CTP study. Do the identified criteria direct the authors towards quantitatively based research pools? The third section reviews the Andrew (1990) and Darling-Hammond (2000) studies to illustrate how different methodologies can present contradictory results. The fourth section examines the CTP

[3] Studies of Excellence in Teacher Education is a three-volume series detailing exemplary undergraduate, 5-year, and graduate level teacher education programs. This paper draws specifically from Studies of Excellence in Teacher Education: Preparation in the undergraduate years (Darling-Hammond, 2000b).

teacher education policy recommendations. Is there evidence of paradigm privilege in the recommendations? Given the CTP recommendations and findings in the research examples, I conclude by exploring the potential implications of paradigm privilege on future teacher education research and policy.

Research Paradigms

Good research is a matter not of finding the one best method but of carefully framing that question most important to the investigator and the field and then identifying a disciplined way in which to inquire into it that will enlighten both the scholar and his or her community (Shulman, 1997, p. 4).

A paradigm is the overarching set of thoughts and beliefs through which researchers conduct their research. It colors, and filters, existing and emergent research theories and research programs. Patton (1975) notes, "a paradigm is a world view, a general perspective, a way of breaking down the real world. As such, paradigms are deeply embedded in the socialization of adherents and practitioners, telling them what is important, what is legitimate and what is reasonable" (Patton, 1975, p. 9). Rist (1990) suggests, "adherence to one paradigm as opposed to another predisposes one to view the world and the events within it in profoundly differing ways" (Rist, 1990, p. 83). Thus, researchers' paradigmatic beliefs shape how they conceive of research questions.

In the first Handbook of Research on Teaching, Gage (1963) describes paradigms as a point from which researchers establish "the kinds of variables and relationships between variables that he [or she] will investigate" (Gage, 1963, p. 95). Within a particular paradigm there are agreed-upon concepts, principles, and procedures for conducting research. Thus, a paradigm offers researchers a set of shared theories, methodologies and tools from which to conduct their studies. In addition, these communal partners judge research from a shared set of values and standards.

Positivism and the Nature of Quantitative Research

Bredo & Feinberg (1992) help us outline the characteristics of positivism stating, "knowledge, for the positivist, exists at three levels of generality or abstraction: (1) particular observations, (2) laws, or empirical generalizations, and (3) theoretical statements and definitions" (Bredo & Feinberg, 1992, p. 16). Positivists often circumscribe observable behaviors in the subject of their study using quantitative methodologies (Gall et al., 1999; Smith, 1983). Quantitative researchers take the position "social phenomena can be conceptualized quantitatively (or, at least, as categorical), and can be conceptualized as existing in 'distributions'. Therefore, they can be conceptualized as 'variables' "(Olneck, 2001, p. 1). The goals of quantitative research include "identifying general patterns and relationships, testing theories, and making predictions" (Ragin, 1994, p. 133). As such, large sample sizes and data pools are commonplace. This is due, in part, to the belief that "an objective social reality is relatively constant over time and settings (Gall et al., 1996, p 30).

Quantitative research designs, Ragin (1994) suggests, "imitate many of the features and practices of hard sciences such as physics and chemistry" (Ragin, 1994, p. 107). This mimicking generates knowledge, which is "assumed to adequately reflect reality and thus to provide useful and valid (assuming the researcher is skilled and competent) information upon which one can make decision regarding policy and practice" (Young, 1999, p. 682). However, "the complexity of causal structures is often overlooked by social scientists because of implicit beliefs concerning the validity of the methodological techniques themselves" (Miller & Fredericks, 2000, p. 2, citing Campbell, 1987). Adherence to these beliefs can strip away the complex contextual influences and relationships we know to exist within the teacher education, teaching, and learning milieu.

Many researchers do not believe educational variables can be abstracted from complex social realities. These researchers believe "scientific inquiry must focus on the study of the different social realities that individuals in a social situation construct as they participate in it" (Gall et al., 1999, p. 14). For many teacher education researchers, our inquires focus on how teacher candidates interpret and interact with their educational environments and how they transfer that knowledge into teaching and learning in classrooms.

Interpretivism and the Nature of Qualitative Research

Erickson (1986) points out, "Perhaps the most basic difference between the interpretive and the standard approaches to research on teaching lies in their assumptions about the nature of cause in human social relations" (Erickson, 1986, p. 125). Interpretive researchers believe human actions result from choices based on constructed interpretations of the social setting. In addition, interpretive researchers, unlike positivist researchers, do not believe the behaviors of two individuals necessarily have the same meaning. As a result, interpretivists "assume that they deal with multiple, socially constructed realities or "qualities" that are complex and indivisible into discrete variables, they regard their research task as coming to understand and interpret how the various participants in a social setting construct the world around them" (Glesne, 1999, p. 5).

Interpretive researchers utilize qualitative methods drawn from different research traditions (e.g., the social sciences, humanities, interdisciplinary studies). Interpretive researchers accept and acknowledge their role in constructing, and co-constructing these meanings. This relationship is noted in the methodological term "participant observation" research. Other methodologies include, structured and open-ended interviews, and document analysis. In fieldwork, induction, deduction, and abduction are in constant dialogue and the

critical component of interpretive research is the objective analysis of subjective meaning (Agar, 1996; Erickson, 1986).

Interpretive research brings to the forefront the meaningful interpretations of human actions and reactions that occur within the social setting. Correlational linkages and the development of new theories that might not be otherwise been identified are exposed (Denzin & Lincoln, 2000; Erickson, 1986; Glesne, 1999).

Given these differences, it is not surprising paradigm and methodological debates continue (see for example, Eisner, 1983; Howe, 1988; Phillips, 1983; Schrag, 1992; Smith, 1983). The debate, as Lee and Yarger (1996) point out,

> [is] complicated by the underlying issues of power and voice. The paradigmatic debate started with the qualitative researchers gaining power and asserting their voice to be heard in the education research community, which has been dominated by the researchers with quantitative orientations (Lee & Yarger, 1996, p. 19).

Educational policy-makers control the presence and absence of voice in policy recommendations; recommendations like those forwarded to the U.S. Department of Education through the CTP report. It is Erickson (1986) who appropriately reminds us about power and influence.

> Since Weber we have seen that lines of power and influence are drawn along lines of differential access to information. Thus basic political interests are at stake in the revelation or concealment of certain items of information among local audiences (Erickson, 1986, p. 153).

Are notions of power and voice manifested in the CTP report, Teacher Preparation Research: Current Knowledge, Gaps, and Recommendations? Did the authors' criteria and methodology for reviewing research give voice to one paradigm while minimizing the other? The next section of this paper examines this question.

The Center for the Study of Teaching and Policy Report

Teacher Preparation Research: Current Knowledge, Gaps, and Recommendations

> *What is crucial to see, however, is how choices as to what does **not** count as evidence automatically entail **what** evidence counts. Thus, if we reject the use of, for example, ethnographic findings as evidence for a social policy issue, and our only other choice is some type of empirical evidence, then the process of elimination dictates the epistemological choice of what evidence counts*
> *(Miller & Fredericks, 2000, p. 4, italics in original).*

The Center for the Study of Teaching and Policy (CTP) report, Teacher Preparation Research: Current Knowledge, Gaps, and Recommendations, summarizes "what rigorous, peer-reviewed research does and can tell us about key issues in teacher preparation" (Wilson et al., 2001, p. i). The authors, Suzanne M. Wilson, Robert E. Floden, and Joan Ferrini-Mundy, examined teacher preparation research that addressed: how teacher candidates acquire preparation in subject matter and pedagogical knowledge; clinical training; policy influences; and alternative certification. This knowledge base forms the body of the report and informed the authors' teacher education policy recommendations to the U. S. Department of Education. Changes to existing policies will impact traditional and alternative teacher education programs across the country. What criteria and methodology did the authors use to sort through teacher education research? Is there a relationship between the identified criteria and the type of research tradition selected for the review?

Criteria and Methodology for Selecting Research for the CTP Report

As stated earlier, the CTP report, Teacher Preparation Research: Current Knowledge, Gaps, and Recommendations, summarizes "existing research—empirical studies, conducted with

rigor and critically reviewed by other researchers—on teacher preparation" (Wilson et al., 2001, p 1). The authors explored teacher education research seeking studies that supplied answers to the following five questions:

1. What kinds of subject matter preparation, and how much of it, do prospective teachers need?
2. What kinds of pedagogical preparation, and how much of it, do prospective teacher need?
3. What kinds, timing, and amount of clinical training ("student teaching") best equip prospective teachers for classroom practice?
4. What policies and strategies have been used successfully by states, universities, school districts, and other organizations to improve and sustain the quality of preservice teacher education?
5. What are the components and characteristics of high-quality alternative certification programs (p. i-iii)?

The authors identified candidate studies for the review from "data base searches, using relevant key works and searching ERIC, FirstSearch, Linguistic and Language Behavior Abstracts, Arts & Humanities Citation Index, Social Sciences Citation Index, and the Science Citation Index" (Wilson et al., 2001, p. 2). The authors reviewed other sources as well (e.g. reference lists of relevant meta-analyses, all handbooks of educational research, etc). The authors used four criteria to identify candidate studies. Studies had to be 1) directly relevant to the five questions posed by the U.S. Department of Education, 2) published in a scientific journal, 3) published within the past two decades, and 4) of United States' teacher education (Wilson et al., 2001, p. 2).

Three hundred published teacher education research reports were identified and then screened with two additional criteria: "empirical…[and] rigorous" (p. 3). The authors determined "whether a study was rigorous…[by] divid[ing] studies according to their general

methodology and developed criteria for each type" (Wilson et al., 2001, p. 38). Methodologies included experimental and quasi-experimental studies, multiple regression studies, follow-up surveys, comparison studies that 'controlled for relevant differences', longitudinal studies of change and 'interpretive studies' (p. 38). The entire selection process yielded the 57[4] studies used in the review.

A Paradigm and Methodology Analysis of the CTP Selected Research

This paper, examines the nature of these 57 studies. Are there paradigm or methodological similarities? Did the selection criteria direct the authors to a particular paradigm or methodology? Pertinent to this paper are the descriptors used to select interpretive studies. These studies were "limited to reports that included a description of their processes for data collection and analysis that included evidence, such as samples of interview responses or detailed descriptions of events, as part of the report" (Wilson et al., 2001, p. 38).

Appendix B of the CTP report lists the 57 studies and identifies author(s), research tradition, sample size, variables and findings for each study. Herein lies the data for this paper's research. A simple tally of the 57 studies' research traditions yields 33 interpretive studies.

Upon closer inspection though, 48% of the interpretive studies were supported with quantitative instruments (i.e., surveys, subject matter testing or instruments testing belief systems or teacher morale). For example, the CTP authors identified "Prospective Elementary Teachers' Mathematics Subject Matter Knowledge: The Real Number System" (Adams, 1998) as an interpretive study. However, this study also makes its claims from survey research. Similarly, the authors included the interpretive study, "Preservice Biology Teachers' Knowledge Structures

[4] Appendix B identifies 71 studies. However, thirteen studies informed more than one question. As a result 57 individual studies were included in the CTP report.

as a Function of Professional Teacher Education: A Year-Long Assessment" (Gess-Newsome & Latham, 1993). Gess-Newsome & Lederman's findings are drawn from a questionnaire distributed three times in one semester (p. 50). So, when each of the 33 interpretive studies is carefully examined, only 17 of the 57 studies included in the CTP report utilized exclusively interpretive methodologies. The CTP authors appear to offer only a cursory nod to the relative value of interpretive research.

Remember, the purpose of the CTP report was to summarize research on five key issues in teacher preparation and forward policy recommendations to the U.S. Department of Education. My review of the CTP research suggests that the authors constructed their recommendations based on a literature pool composed of 70% positivism-oriented, quantitatively based research. Note again, the recommendations forwarded to the U.S. Department of Education have the potential to impact the field of teacher education and funding for future teacher education research.

I realize that I am attributing a great power to educational research (and therefore to research genres) in the policy process. I do recognize that the extent to which research influences policy, and the ways in which it does so, are not easy to determine and themselves requires study (Fuhrman, Clune, & Elmore, 1988; Kingdon, 1984; McLaughlin, 1987; Miller & Fredericks, 2000; Willinsky, 2001). However, when learned scholars are commissioned to review research in any field, we have to believe that the results of the review hold some merit for those who commissioned it.

Although the CTP authors state a number of caveats to their review of teacher preparation research (see Wilson et al., 2001, p. 5-6), their preference for a specific type of research seems

clear. How did this privileging of positivism-oriented research using quantitative methodologies manifest itself in the report? The next section reviews the selection, and omission, of two studies the CTP report acknowledges.

Two Teacher Education Studies and the Impact of Privilege in the CTP Report

A research design enables the collection of data in a manner that allows research questions to be answered, while minimizing the possibility of making erroneous interpretations of those data—and hence arrive at mistaken answers to those questions
(Haller & Kleine, 2001, p. 89).

The CTP report selected and omitted research using six criteria, which resulted in a paradigm and methodological bias in the type of research reviewed. This section examines two teacher education studies. "Differences Between Graduates of 4-Year and 5-Year Teacher Preparation Programs" (Andrew, 1990) is a quantitative piece included in the CPT report. Studies of Excellence in Teacher Education: Preparation in the undergraduate years (Darling-Hammond, 2000b), interpretive case study research, was not included in the report.

Each study's results addresses CTP Question 4: What policies and strategies have been used successfully by states, universities, school districts, and other organizations to improve and sustain the quality of preservice teacher education? Given similar questions and different methodologies, what results are gained from one study that may not have been accessible from the other? More importantly, does the knowledge rendered from these studies have the potential to miscue teacher education policy recommendations?

"Differences Between Graduates of 4-Year and 5-Year Teacher Preparation Programs" (Andrew, 1990)

Andrew (1990) is a quantitative study. It is a "10-year comparison of graduates for 4- and 5- year teacher education programs at the same institution [that] revealed significant differences between graduates of the two programs" (Andrew, 1990, p. 45). The study is often

cited in evidentiary arguments supporting policies to extend 4-year teacher education programs to 5 years (National Commission on Teaching & America's Future, 1996; SRI International, 1999). Andrew (1990) was designed to bring "empirical data to the dialogue" (Andrew, 1990, p. 45) on teacher education program length and retention in teaching. The CTP authors also used the Andrew (1990) results to address a policy currently under discussion that "involves changing teacher preparation programs from a four-year to a five-year design" (Wilson et al., 2001, p. 24).[5] The CPT report authors note that the Andrew (1990) study "suggests that different institutional policies about the structure of teacher education programs can lead to different characteristics of teachers" (p. 24).

Andrew (1990) compares program effectiveness between the University of New Hampshire's traditional 4-year baccalaureate and its 5-year extended teacher education programs. Program effectiveness was operationalized by "entry and retention rates, reasons for staying in or leaving teaching, program evaluation data, and career choice information" (Andrew, 1990, p. 45). Besides program length, program differences noted in the study include admissions criteria, education courses, student teaching, weekly seminars and a cohort arrangement of program participants.

The study involves both a 10-year comparative population study and one year program evaluation. A 70-item questionnaire was the primary research tool in the ten-year study. The questionnaire was administered to a random sample of 144 5-year program graduates and 163

[5] The CTP report also cites this study in its review of research addressing Question 3--What kinds, timing, and amount of clinical training ("student teaching") best equip prospective teachers for classroom practice (Wilson et al., 2001, p. 21). Andrew (1990) is included in the CTP summary of research on the "difference in impact between traditional (typically 8-12 week) student teaching experiences and the yearlong internship included in the five-year model of teacher preparation"(p. 17).

4-year programs graduates from 1976-1986 at the University of New Hampshire. The questionnaire "provided entry, retention, and background data; a Likert-type scale provided information on 27 factors previously determined to be important for retention in teaching" (Andrew, 1990, p. 47). The questionnaire was piloted on six groups of experienced teachers and subsequently modified. A questionnaire was also the primary research tool in the one-year evaluation. Questions addressed:

> type of clinical placement; allocation of time to teaching related tasks during student teaching or internship; self-rating on 12 instructional tasks related to program objectives and definitions of teaching competence; nature and quality of clinical supervisors; an overall rating of the student teaching or internship
>
> experience; an overall rating of the placement site; the effectiveness of required certification courses; background data; and career plans (Andrew, 1990, p. 47).

Three statistical comparisons were made between 4- and 5-year program graduate responses: frequency of response, chi-square tests on nonparametric data for the two groups, and *t*-tests of means on selected 7-point response items. Allocation of time during internship and student teaching and ratings of effectiveness was examined from the one-year program evaluation responses.

The 10-year study results address entry, retention, career satisfaction, attitudes toward teacher preparation, retention rate and self-assessed ability ratings. The 1-year evaluation results address allocation of time during internship and student teaching as well as ratings of effectiveness. Andrew (1990) suggests that 5-year teacher education program graduates have greater career satisfaction, stay in teaching longer, and are more satisfied with their teacher education coursework (Andrew, 1990). [6]

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[6] Research findings can be found in (Andrew, 1990, p. 48-49).

Implications in the CTP Review

According to the CTP authors' criteria for "rigorous research", studies using follow-up survey were only included in the review when the researcher "sent surveys to a representative sample of alumni and had a return rate of at least 60 percent. For these studies, we restricted inferences to alumni perceptions, not allowing inferences about the effects of programs on other beliefs and knowledge" (Wilson et al., 2001, p. 38). As researchers, we understand that good survey research demands good questions (Gall et al., 1999; Gall et al., 1996; Haller & Kleine, 2001). The Andrew (1990) survey instrument was not included in the Journal of Teacher Education. Consequently, we are forced to accept question quality. Accepting unexamined survey questions does not bring to mind notions of "rigorous research".

I would like to point out that the CTP authors, in their review of interpretive studies, limited their "attention to reports that included a description of their processes for data collection and analysis and that included evidence, such as samples of interview responses or detailed descriptions of events, as part of the report" (Wilson et al., 2001, p. 38). As a teacher education researcher, I am troubled that question quality in the Andrew (1990) survey research was not examined while interpretive studies appear to have undergone more extensive scrutiny.

Let us not forget, the purpose of the CTP report was to "summarize what rigorous, peer-reviewed research does and can tell us about key issues in teacher preparation... [the results of which] can provide directions as we work to improve teacher preparation nationally" (Wilson et al., 2001, p. i). If the Andrew (1990) findings are used to inform policies addressing teacher education program length, it is easy to imagine the potential monetary and programmatic impact on existing programs.

Studies of Excellence in Teacher Education: Preparation in the undergraduate years (Darling-Hammond, 2000b) challenges the Andrew (1990) findings. This interpretive study, though not included in the CTP review, also addresses Question 4—What policies and strategies have been used successfully by states, universities, school districts, and other organizations to improve and sustain the quality of preservice teacher education? What do the results of Darling-Hammond (2000) suggest?

Studies of Excellence in Teacher Education
(Darling-Hammond, 2000a)

Studies of Excellence in Teacher Education (Darling-Hammond, 2000a) is interpretive research utilizing case studies and qualitative methods. The findings are reported in a three volume series. The purpose of the study

> is not to suggest a single cookie-cutter approach to preparing teachers, but to understand the core features of a range of programs that make a difference for preparing teachers who understand their students and who can teach in ways that develop deep understanding and high levels of competence (Darling-Hammond, 2000b, p. x).

The CTP report references this study in a footnote stating

> Promising new research also has been conducted, but the length of the reports (often including in-depth descriptions) excludes it from peer-reviewed journals... While this research was not included in this review, it warrants attention by future researchers who are searching for models of how to accurately and systematically document, describe, and analyze the content and quality of pedagogical preparation (Wilson et al., 2001, p. 16).

However, as previously stated, Darling-Hammond (2000a) was not included in the CTP review of teacher preparation research.

Darling-Hammond (2000a) examines seven teacher education programs across the United States with the intent of providing

> greater knowledge that others in the field can build upon—knowledge that will help us understand what successful teacher education models look like, what they aim for, what they do, and what their students can accomplish as a result (Darling-Hammond, 2000b, p. vi).

Programs were initially selected for the study by asking "principals, superintendents, and teachers who operated schools that were extraordinarily successful with diverse learners about where they liked to hire their teachers" (Darling-Hammond, 2000b, p. vii). These identified programs then underwent an extensive review of evidence documenting their success.

From this evidence, programs were selected for study based on their ability to prepare learner-centered and learning-centered teachers. Darling-Hammond (2000) explains how the researchers operationalized 'learner-centered' and 'learning-centered' constructs,

> By this we mean that they prepare teachers to met the needs of very diverse learners—to teach in ways that are responsive to individual students' intelligences, talents, cultural and linguistic backgrounds, needs, and interests; and they prepare teachers to teach for understanding—to teach in ways that support active, in-depth learning which results in powerful thinking and flexible, proficient performances on the part of their students (p. v).

After this screening, seven teacher education programs were selected for study: Bank Street College, the University of California at Berkeley's Developmental Teacher Education Program, the University of Southern Maine's Extended Teacher Education Program, Wheelock College, Alverno College, Trinity University, and the University of Virginia. Each program utilizes a different model of teacher preparation. Some are undergraduate programs; others are 5-year post baccalaureate. Some programs use cohorts while others are involved in professional development school partnerships with local school districts.

Teams of researchers conducted research at each program site. Each team made eight visits, from one to two days, to both the teacher education program and area schools. The team conducted "interviews with, and observations of, program faculty, cooperating teachers,

students, principals, and program graduates" (Darling-Hammond, 2000b, p. 58). Interviews and observations were conducted using a standard set of protocols. Teacher evidence included observations and artifacts of practice (e.g., portfolios, lesson plans, sample of student work). Program accreditation documents were also reviewed. A crosscutting analysis of the cases yielded the study's findings.

The study produced three distinct findings. Pertinent to CTP Questions #4, "What policies, organizational features, resources and relationships have enabled these programs to be successful, taking into account the university and state policy contexts within which these programs exist" (Wilson et al., 2001, p. ix), the research documents six common features across these seven exemplary teacher education programs. These features include:

1. A common, clear vision of good teaching that is apparent in all coursework and clinical experiences;
2. Well-defined standards of practice and performance that are used to guide and evaluate coursework and clinical work;
3. A curriculum grounded insubstantial knowledge of child and adolescent development, learning theory, cognition, motivation, and subject matter pedagogy, taught in the context of practice
4. Extended clinical experiences (at least 30 weeks) which are carefully chosen to support the ideas and practices
5. Strong relationships, common knowledge, and shared beliefs among school- and university-based faculty; and
6. Extensive use of case study methods, teacher research, performance assessments, and portfolio evaluation to ensure that learning is applied to real problems of practice (Darling-Hammond, 2000b, p. x).

Potential Implications for the CTP Review

Contrary to Andrew (1990), the Studies of Excellence in Teacher Education (Darling-Hammond, 2000a) findings do not suggest that 5-year teacher education program structures are necessary to produce learner-centered and learning-centered teachers. Rather, extended clinical experiences, of varying length, appear to support exemplary programs.

Remember, Studies of Excellence in Teacher Education is described as 'promising new research' but, as the CTP authors noted, "the length of the reports (often including in-depth descriptions) excludes it from peer-reviewed journals" (Wilson et al., 2001, p. 16). Consequently, because publication in a peer-reviewed journal was one of the criteria for 'rigorous' research included in the CTP review, this study was excluded.

Interpretive researchers collect thick, rich, descriptive data (Denzin & Lincoln, 2000; Erickson, 1986; Glesne, 1999), which generates lengthy reports, particularly given the need to establish validity/credibility, reliability/dependability and generalizability/transferability with the research community. Ethnographers generally produce books, not short articles in peer-reviewed journals that limit article length (see for example The Dreamkeepers (Ladson-Billings, 1994), Subtractive Schooling (Valenzuela, 1999), or School Work: Gender and the Social Construction of Teaching (Biklen, 1999). Are the CPT authors asserting that length is an indicator of research quality; in other words, shorter reports found in peer-reviewed journals, equals better research? I suggest that criteria of this nature is yet another example of paradigm privilege in the CTP review.

Does paradigm and methodology preference manifest itself in the CTP report's recommendations for teacher education policy? This question is examined in the next section.

Paradigm Privilege and Policy Implications

Social policy makers assume an atypical "gatekeepers" role where, in this case, they must attempt to appropriate, translate, and filter social science research finding to relevant publics (Miller & Fredericks, 2000, p. 2)

Thus far, we have seen two examples of paradigm and methodology privilege in the CTP report: (1) a preference for quantitative research in the literature review and (2) the use of criteria that potentially excludes quality, yet lengthy, interpretive research. Does paradigm privilege manifest itself in the CTP teacher education policy recommendations? The CTP report provides 4 excellent examples of this privilege. The first two examples address paradigm and methodological issues associated with the two studies just discussed. The other two examples appear in the report's recommendations for future teacher preparation research.

Example #1

The CTP authors state, "we need to know more about the effects of varying lengths of clinical experiences, as well as practices and structures that enable teacher learning from those experiences" (Wilson et al., 2001, p. 22). They point out research on clinical experiences is weak in three areas:

1. Past research has focused on cooperating teachers' and *prospective teachers' attitudes about field experiences* rather than on what prospective teachers learn in those experiences;
2. Measures used are relatively unreliable; and
3. *research done is interpretive and small scale* (p.21-22, italics added).

Andrew (1990) suggests 5-year program graduates enter and stay in teaching more frequently than 4-year program completers. The study also indicates 5-year teacher candidates have more favorable attitudes toward their preparation and ability to teach. However, Andrew (1990) is an

evaluation of prospective teachers' attitudes and draws from self-reporting survey data. The study's conclusion that 5-year teacher education program graduates are better prepared to teach than candidates completing 4-year programs uses unreliable measures of 'prospective teachers' attitudes about field experiences'. As such, it is difficult to isolate the relationship between the additional year of teacher preparation and candidate retention in teaching.

Studies of Excellence in Teacher Education (Darling-Hammond, 2000) suggests that program length is not a variable in teacher preparation quality. The study identifies six key characteristics of exemplary teacher education programs, only one of which is temporal. The study points out that exemplary programs have "extended clinical experiences (at least 30 weeks)" (Darling-Hammond, 2000b, p. x) not that 5-year programs better prepare candidates to teach. In fact Alverno College, one of the study's seven cases, is a 4-year undergraduate teacher education program. Given this, the findings in Darling-Hammond (2000) appear to undermine the Andrew (1990) results. The possibility of this conflicting evidence is not presented in the CTP report because Darling-Hammond (2000) was not included in the review of teacher education research.

Example #2

> In their discussion of "research done is interpretive and small scale" the authors state,
>
> > While this research sheds light on the factors that make field experiences complicated, the limited sample sizes and local 'treatments' make it impossible to generalize from the research...We need more rigorous research in this area that includes multiple methods, large scale and comparative designs... (Wilson et al., 2001, p. 22).

Interpretive research uses multiple methods and, by its very nature, is small scale. When done well, interpretive research can offer transferability. Qualitative researchers do not often use the term generalizable. It would appear that the CTP authors are demanding that interpretive

research undergo scrutiny via the privileged language of quality found in quantitative research. As we have seen, when the research is purported to be policy relevant, quality interpretive research can offer much to the conversation.

Example #3

Again, in their discussion of 'research done is interpretive and small scale', the authors argue, "the majority of this research is not published in the most competitive education journals; rather, the research typically appears in two teacher education-specific journals" (Wilson et al., 2001, p. 22). The authors temper this statement with a footnote stating,

> We are not suggesting that the *Journal of Teacher Education* and *Action in Teacher Education* do not publish high-quality research. However, we do believe that research on clinical experiences would be enhanced if researchers aimed to publish research on field experiences in a wider array of peer-reviewed journals (p. 22).

I find it ironic that Andrew (1990), along with 17 other studies included in the CPT review, were published in either the *Journal of Teacher Education* or *Action in Teacher Education*. It would appear that the CTP authors not only wish to limit the nature of 'rigorous' research, but also which journals are worthy of publishing such reports.

Example #4

The last section of the CTP report puts forward recommendation guidelines for future teacher preparation research. These guidelines illustrate a critical example of paradigm and methodology privilege. The recommendations identify a "set of research design principles to ensure that future research offers well-grounded findings" (Wilson et al., 2001, p. 31). The authors outline "seven considerations in the design and conduct of future research" (p. 32). I will limit my analysis of privilege to the following two statements:

1. Data collected about teacher preparation should describe specific features of the content and quality not merely counts of courses and vague terms...

> We need better analytic and descriptive tools for characterizing teacher preparation programs and their policies, as well as more refined and stable measures of teacher knowledge and teacher behaviors.
>
> 2. We need research designs and analytic methods that control or test for other important variables (Wilson et al., 2001, p. 32).

Terms like 'refined and stable measures', 'control', 'test', and 'variables' are commonplace in the language of positivism and quantitative methodologies. They are not part of interpretive research discourse. This demand clearly positions positivism as the research paradigm of choice.

These four examples illustrate the privileged position of positivism and quantitative methodologies in the CTP research report, "Teacher Preparation Research: Current Knowledge, Gaps, and Recommendations". Paramount in this analysis is the authors' recommendation that future teacher education research model designs based on the principles of positivism and quantitative methodologies. Remember, this report was prepared for the U.S. Department of Education. If these recommendations become policy, it secures the privileged status of positivistic research and quantitative methodologies and forms the basis for all future teacher education research funding and policy-making decisions.

Conclusion

The danger of knowing only one [world view or] perspective and associated research methods is that this narrow view could prevent the researchers from seeing a range of issues and alternative approaches to inquiry about the phenomenon of interest
(Lee & Yarger, 1996, p. 34).

This paper exposes, and challenges, the privileged position of positivism and quantitative methodologies in teacher education policy making. Doing this "brings to the forefront the epistemological question of what is to count as knowledge" (Smith, 1983, p. 52). I did not undertake this task to dismantle the relative value of quantitative educational research. Rather, to point out how paradigm privilege constrains our access to, and understanding of, the complex relationships within the teacher education, teaching and learning milieu.

Teaching and learning involves structures and actors. The quantitative research methods of positivism are used to "identify general patterns and relationships, testing theories, and making predictions" (Ragin, 1994, p. 132). Interpretive research offers teacher education researchers and policy makers an opportunity to examine the "immediate and local meanings of actions, as defined from the actors' point of view" (Erickson, 1986, p. 119). Teacher education research that draws from both paradigms and utilizes multiple methodologies "presents us not merely with an enormous technical challenge but with the opportunity to investigate an impressive variety of questions from a rich set of alternative social and political perspectives" (Shulman, 1997, p. 18). As a teacher education researcher, I believe we can meet this challenge.

Research undertaken within one paradigm is "limited in purview, knowledge, and impact" (Young, 1999, p. 705). Thus, when policy makers review teacher education research

from one paradigm, their knowledge base about teaching, learning and teacher education is restricted. This situation limits their ability to make informed teacher education policy decisions.

There is much to be learned in the field of teacher education. Restrictions on what counts as knowledge, and what knowledge counts, should be recognized and removed. As Erickson (1986) reminds us, "old paradigms are rarely replaced...rather the old and the newer paradigms tend to co-exist" (Erickson, 1986, p. 120). Disrupting the paradigm privilege of positivism and quantitative methods in teacher education research creates opportunities for new knowledge, new understandings and better-informed policies. Recently a learned scholar, in his review of current research on effects of teaching, commented, "my prognosis is that research on the effects of teaching, built on strong research designs from multiple methodologies, will make increasing contributions to educators' understandings of how to improve education for all" (Floden, 2001, p. 14). Surely strong research designs from multiple methodologies can make increasing contributions to educators' and policy makers' understandings of how to improve teacher education.

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